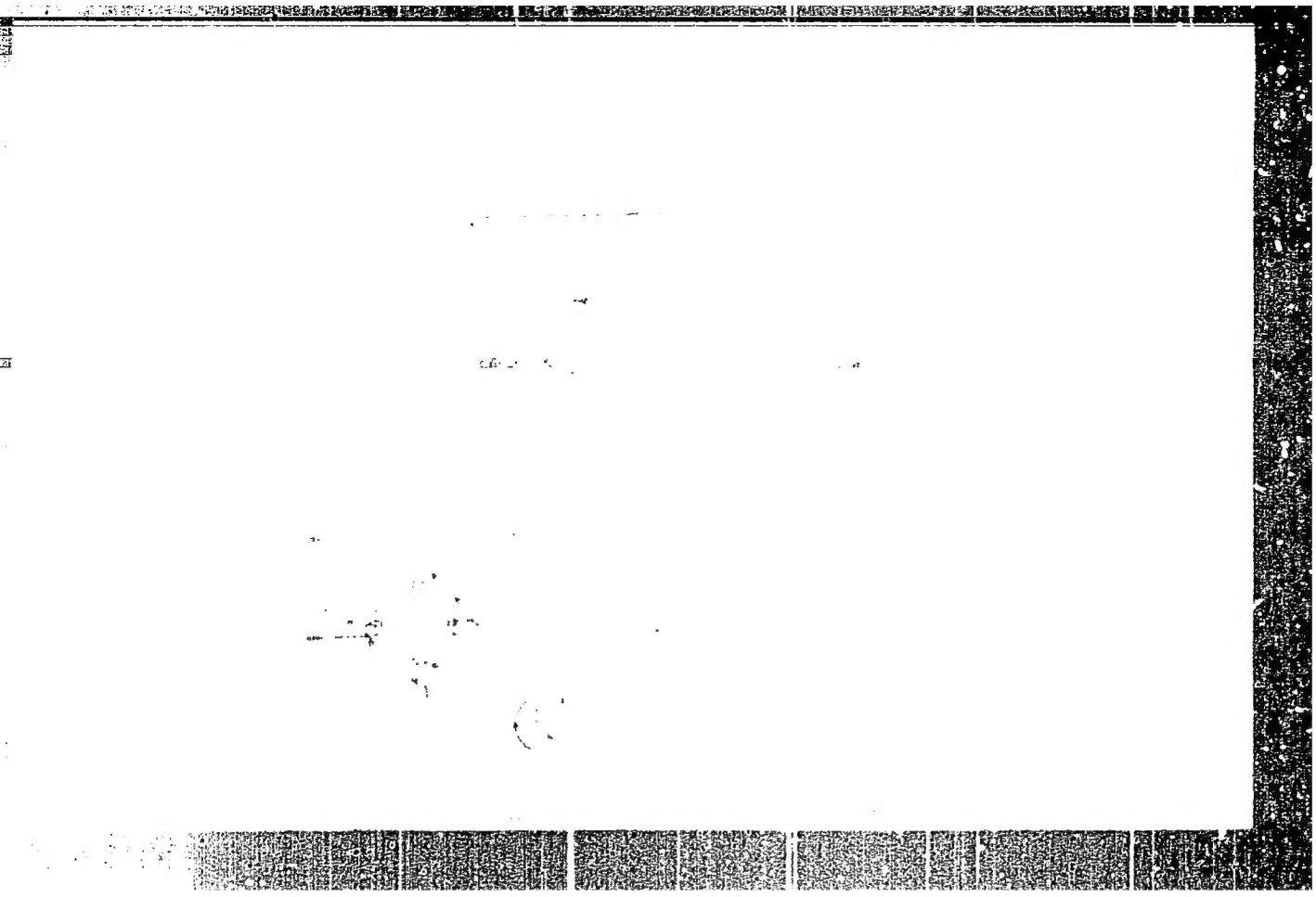

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721820020-9"

L 08839-67 EWT(1)/EWP(m) GW
ACC NR: AP6028527 SOURCE CODE: UR/0040/66/030/004/0784/0788

AUTHOR: Kharlamova, Ye. I. (Donetsk)

ORG: none

TITLE: Reducing the problem concerning the motion of a heavy solid body containing a stationary point to a single equation. A new particular solution of this problem

SOURCE: Prikladnaya matematika i mekhanika, v. 30, no. 4, 1966, 784-788

TOPIC TAGS: two body problem, gyroscope motion equation, gravitation effect

ABSTRACT: The solution of the problem proposed by the author differs from the thirteen existing solutions in that the center of mass is in the principal plane rather than on the principal axis and the integrals in this solution are nonlinear. It is assumed that one of the special coordinate axes coincides with the principal axis which makes it possible to reduce the problem to one relatively simple equation. The new particular solution of the problem is obtained on the basis of this equation. The solution contains eight independent parameters:

$$a, a_1, b, \lambda, \lambda_1, \Gamma, \xi_0, \alpha_0$$

of which a, a_1, and b are components of the gyration tensor along special axes; λ and λ_1 are components of the gyrostatic moment which is constant with respect to the body;

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ACC NR: APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721820020-

Γ is the modulus of the invariant space vector which indicates the direction of gravity; ξ_0 is defined by an analytical expression; and α_0 is used to determine the position of the body in space based on kinematic equations proposed by the author in an earlier paper. Orig. art. has: 29 formulas.

SUB CODE: 12,20/ SUBM DATE: 13Oct65/ ORIG REF: 011/ OTH REF: 003

Card 2/2

the basic equations from the theorem of momentum and from the theorem of torsional momentum. Under consideration of the rolling conditions three of the unknowns can be eliminated so that there remain three equations for three unknowns. It can be seen from the general equations that the center of gravity of the ball moves uniformly accelerated, where this acceleration depends on the initial orientation of the main axes of inertia of the ball. The purely formal analogy existing between the equations of the author and the equations of Chaplygin can be utilized for a direct transmission of Chaplygin's results to the motion considered here. To a geometric interpretation given by Chaplygin of the motion of a rolling ball on a horizontal plane one can give a new interpretation corresponding to the rolling of a ball with with an elliptic ellipsoid of inertia on an inclined plane. The clearness of this interpretation, however, is not very great.

There are 2 Soviet references.

SUBMITTED: March 20, 1958

KHARLAMOV, Ya. I., and Phys-Math Sci--(diss) "Certain problems of dynamics of a solid body." Mos, 1958. 6 pp (Mos Order of Lenin and Order of Labor Red Banner State U im M.V. Lomonosov), 120 copies (KL, 30-58, 122)

KHARLAMOVA, Ye.I.

Motion of a solid body around a fixed point in a central Newtonian field of forces. Izv. Sib. otd. AN SSSR no.6:7-17 '59.
(MIRA 12:12)

1.Institut gidrodinamiki Sibirskogo otdeleniya AN SSSR.
(Mechanics)

KHARLAMOVA, Ye.I.

New solution to the problem of motion in a Newtonian field of force of a body having cavities filled with liquid. Dokl. AN SSSR 157 no.3:549-550 Jl '64. (MIRA 17:7)

1. Novosibirskiy gosudarstvennyy universitet. Predstavleno akademikom P.Ya. Kochinoy.

L 00276-66 EWT(d) IJP(c)

ACCESSION NR: AP5021306 UR/0040/65/029/004/0733/0737

AUTHOR: Kharlamova, Ye. I. (Novosibirsk) 14,55

TITLE: Solutions of problems on motion of a body having a fixed point 21 B

SOURCE: Prikladnaya matematika i mekhanika, v. 29, no. 4, 1965, 733-737

TOPIC TAGS: differential equation 16,44,55

ABSTRACT: The author considers

$$A\frac{dp}{dt} = (B-C)qr + (e_3\gamma_2 - e_2\gamma_3)\Gamma \qquad (1)$$

where e_1, e_2, e_3 is a unit vector from the fixed point to the body's center, and Γ is the product of the body's weight with the distance between the center of mass and the point of support. These equations govern the motion of a solid body with a fixed point in a homogeneous gravitational field. The author finds certain particular solutions of these equations under certain conditions on the mass distribution and initial conditions. She also finds five solutions of a related system which have as limiting cases known particular solutions or generalizations of these particular solutions. Orig. art. has: 29 formulas.

ASSOCIATION: none

Card 1/2

L 00276-66
ACCESSION NR: AP5021306

SUBMITTED: 23Mar65 ENCL: 00 SUB CODE: ME, MA

NO REF SOV: 007 OTHER: 005

Card 2/2

SOV/79-29-6-45/72

5(3)
AUTHORS: Vasil'yev, V. G., Kharlamova, Ye. N.

TITLE: Thermal Decarboxylation of Methyl Acetyl Salicylate Marked With C^{14} (Termicheskoye dekarboksilirovaniye metilatsetilsalitsilata, mechennogo C^{14})

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 6, pp 1973 - 1982 (USSR)

ABSTRACT: The decarboxylation reaction of the carboxylic acids has been investigated in detail. R. R. Brown (Ref 1) mentions a number of proofs for the fact that these reactions take place over the formation of the anion or the dipolar ion:

$$RCO_2H \rightarrow RCO_2^- \rightarrow R^- + CO_2 \quad (1)$$

$$RCO_2H \rightarrow H^+RCO_2^- \rightarrow RH + CO_2 \quad (2)$$

$$H^+ + RCO_2^- \rightarrow HR + CO_2 \quad (3)$$

The only example of a decomposition in undissociated form is the mesitol acid (mezitoynaya kislota). The thermal decarboxylation of the esters is more complicated. Both bonds show the same stability with respect to their cleavability. On the basis of theoreti-

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Thermal Decarboxylation of Methyl Acetyl Salicylate Marked With C^{14} SOV/79-29-6-45/72

cal considerations the authors used a method described already earlier for the investigation of the kinetics and the mechanism of the decarboxylation of methyl acetyl salicylate (=A.M.C.) with the C^{14} marked in the acetate group (scheme (6) and (7)) i. e. at 280, 300 and 320°. The application of the isotope made possible a separate determination of the rates of the simultaneous development of carbon dioxide from both carboxyl groups of this compound. The separation of CO_2 from the methyl carboxyl group takes place autocatalytically. The initial noncatalytic reaction takes place with the activation energy 44 Cal/Mol. The autocatalytic stage occurs with the activation energy 38 Cal/Mol between AMC and the product of the first reaction. The curves computed on the basis of these conditions correspond to the experiment. A chain-, radical-, and ionic mechanism is not possible. The separation of C^*O_2 from the acetoxy group takes place in two stages: at the beginning acetic anhydride forms from 2 molecules AMC which in the second stage decomposes into CO_2 and acetone. This reaction is inhibited by the decomposition products of AMC. The difference of the activation energy of the two reactions (=1.8 Cal/Mol) was computed

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from the ratio of the constants of the initial velocities of $C^{*}O_2$ and CO_2. This difference is mainly due to the difference in the degree of conjugation of the two carboxyl groups with the aryl and methyl group of the molecule AMC (2 curve diagrams). There are 3 figures and 21 references, 5 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy fiziko-khimicheskiy institut imeni L. Ya. Karpova (Scientific Physicochemical Research Institute imeni L. Ya. Karpov)

SUBMITTED: April 15, 1958

81730
S/020/60/133/01/42/070
B004/B007

5.3100

AUTHORS: Vasil'yev, V. G., Kharlamova, Ye. N.

TITLE: Investigation of the Strength of C-O Bonds by Isotopic Exchange

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 1, pp. 152 - 154

TEXT: The authors investigated the relative strengths of C-O bonds in ethers and esters by means of the exchange of C^{14}. As a relative measure of strength an exchange yield was selected, which was attained after a certain time. The experimental conditions were chosen in such a manner that the yield did not exceed 20 - 40 %, so that its values approximately corresponded to the rate constants. Equimolar mixtures, in which one component was tagged with C^{14}, were heated in ampoules. In the first two experimental series determination of the radioactivity absorbed by the non-tagged component was carried out qualitatively by measuring radioactivity, but in the third, it was carried out quantitatively by

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81730
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B004/B007

Investigation of the Strength of C-O Bonds by Isotopic Exchange

determining the C^{14} content. In series 1 reactions of ethers were investigated. Neither p-nitrophenol, p-chlorophenol, p-diethoxybenzene nor p-cresol ethyl ether entered into exchange reaction with sulphuric ether tagged with C^{14} at 300°C and with the experiment lasting 20 h. Only in the case of phenetole was a slight exchange observed. Experiments carried out with phenetole (p-nitrophenol) and C^{14}-ethanol also showed no reaction. In series 2 qualitative investigations were carried out in mixtures of acids, esters, acid anhydrides and ketones (Table 1). Ketones did not enter into reaction with acid anhydrides. For series 3 the system $C_6H_5COOC_6H_5 + C_6H_5C^{14}OOH$ was selected, and both the exchange of C^{14} as also, in parallel experiments, with $C_6H_5CO^{18}O^{18}H$ the exchange of O^{18} were investigated. C^{14} was combusted to CO_2 and determined by measuring the pulses of $BaC^{14}O_3$. O^{18} was combusted to CO_2^{18} and the latter was determined by means of an MI-1303 (MI 1303)-type mass spectrometer (these measurements were carried out by M. V. Tikhomirov). The authors found an exchange of C^{14} equalling 41.5 %, and of O^{18} equalling 21 %. Therefore,

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27906
S/079/61/031/010/006/010
D243/D304

5 3700

AUTHORS: Nazarova, L.M., Kharlamova, Ye. N., Aleksandrova, G. Ye., and El'tekova, Ye. B.

TITLE: Interaction of benzole with phenyl derivatives of elements in Group IV of the Periodic Table and of their molecular composition by methods using tagged atoms

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 10, 1961, 3308-3311

TEXT: The report was to fill a gap in literature and investigate further the 1:1 molecular combination of triphenylmethane and benzole described previously by Anschütz (Ref. 2: Lieb. Ann., 235, 208 (1886)). The combustion of the molecular compounds and benzole for activity analysis was effected by the method of moist oxidation with a Van Slayk-Fol'kh mixture, the carbon monoxide being absorbed by a saturated solution of barium hydrate which was later filtered, washed and dried. Activity measurements were

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D243/D304

taken over five minute periods, alternating with background measurements: At least five readings were taken with each specimen. Exchange experiments with benzole were done in glass ampoules. $Э(C_6H_5)_4$ (where Э = Sn, Si, Pb) was placed in a dry ampoule and benzole added in a molar ratio of 1:15. The ampoule was sealed under nitrogen and heated at 150° until complete solution of $Э(C_6H_5)_4$. After cooling the ampoule was opened, and excess benzole removed by a current of nitrogen. The dry remainder was left for some days in a fume cupboard and then removed to a desiccator for storage. Conclusions: 1) Tetraphenylsilicon, tetraphenyltin and tetraphenylead form stable molecular compounds with benzole which have a general formula $(Э(C_6H_5)_4)_7 \cdot C_6H_6$, whilst triphenylmethane forms a highly unstable 1:2 molecular compound with benzole. 2) A method of determining the molecular compositions of these compounds using tagged C^{14} atom was suggested. There are 3 tables and 2 references: 1 Soviet-bloc and 1 non-Sviet-bloc.

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27906
S/079/61/031/010/006/010
D243/D304

Interaction of benzole ...

ASSOCIATION: Fiziko-khimicheskiy institut imeni L. Ya. Karpova (Institute of Physical Chemistry imeni L. Ya. Karpov)

SUBMITTED: September 24, 1960

Card 3/3

IL'ICHEVA, Z.F.; KHARLAMOVA, Ye.N.; SLOVOKHOTOVA, N.A.

Spectroscopic study of the complex formed by natural rubber with titanium tetrachloride. Dokl. AN SSSR 164 no.3:581-583 S '65. (MIRA 18:9)

1. Fiziko-khimicheskiy institut im. L.Ya. Karpova. Submitted March 13, 1965.

L 33067-66 EWT(m)/EWP(j) IJP(c) RM

ACC NR: AP6024159 SOURCE CODE: UR/0020/65/164/003/0581/0583

AUTHOR: Il'icheva, Z. F.; Kharlamova, Ye. N.; Slovokhotova, N. A. 57 B

ORG: Physical Chemistry Institute im. L. Ya. Karpov (Fiziko-khimicheskiy institut)

TITLE: Spectroscopic investigations of a complex of natural rubber with titanium tetrachloride 15

SOURCE: AN SSSR. Doklady, v. 164, no. 3, 1965, 581-583

TOPIC TAGS: spectroscopy, natural rubber, titanium compound, cyclization, spectrophotometer, ir spectrum, chloride

ABSTRACT: It is known that under the effect of titanium tetrachloride cyclization of rubbers takes place. The present study was undertaken to elucidate the nature of the intermediate products in this process. Natural rubber (NR) was used for the investigations, treated with boiling acetone for 24 hours, and then reprecipitated with methanol from a benzene solution. For measurement of infrared spectra a NR film 0.004 cm thick was prepared from benzene solution in the center of a KBr disc. After careful drying of the film under high vacuum, several drops of $TiCl_4$ were deposited on it. The bright-orange product then formed was covered with a second KBr disc, after which its infrared spectrum was immediately measured on a UR-10 spectrophotometer. All the operations with $TiCl_4$ and the filling of cuvettes were carried out in a hermetic chamber in dry argon. Infrared spectra of the NR / $TiCl_4$ system differed substantially from

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L 33067-66

ACC NR: AP6024159

the spectra of the original rubber and pure $TiCl_4$. In the system, a new intense band appeared in the region of 1530 cm^{-1}; at the same time, the 1665 cm^{-1} absorption band, corresponding to the valency oscillations of the C=C bond in the original NR disappeared. Evidently, a 135 cm^{-1} shift of this band into the long-wave region occurred, along with an increase in its intensity.

An intense absorption band with a maximum in the 445 millimicron region was observed in the electronic spectrum of the system NR + $TiCl_4$; a band in this region was also observed in the electronic spectrum of the π-complexes of diphenylethylene and its dimer with $SnCl_4$. These facts indicate that in the reaction of NR with $TiCl_4$, a π-complex is initially produced. Evidently, due to the formation of this complex disappearance of the 3040 cm^{-1} band of the valency oscillations of the CH bond in the $-C=CH-$ group is observed, along with a shift

$$\begin{array}{c} \\ | \\ CH_3 \end{array}$$

in the 840 cm^{-1} absorption band of the deformational oscillation of this bond in the 820 - 810 cm^{-1} region. This paper was presented by Academician V. A. Kargin on 13 Mar 1965. Orig. art. has: 3 figures. [JPRS]

SUB CODE: 11,07,20/ SUBM DATE: 20Feb65 / ORIG REF: 002 / OTH REF: 005

Card 2/2

SEN'KIN, T.M.; KHARLAMOVA, Z.M., inzh.

Improvement in railroad yard operation on the basis of using advanced labor methods. Zhel. dor. transp. 40 no.12:63-65 D '58. (MIRA 12:3)

1.Nachal'nik stantsii Nadezhdinsk-Sortirovochnyy (for Sen'kin).
2.Otdeleniye stantsii Nadezhdinsk-Sortirovochnyy (for Kharlamova).
(Railroads--Yards)

KHARLAMOVA-ZABELINA, Ye. I.

16 (1), 10 (2)

AUTHOR: Kharlamova, Ye. I. SOV/20-125-5-11/61

TITLE: A Special Case of the Euler-Poisson Equation (Odin chastnyy slucheay integriruyemosti uravneniya Eylera-Puassona)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 5, pp 996 - 997 (USSR)

ABSTRACT: For the purpose of setting up the equations of motion of a heavy, solid body round an immobile point (if this body has cavities which are filled with an ideal incompressible liquid) it is sufficient to know the coefficients of the quadratic form for the double kinetic energy of the solid body and the liquid. If at the moment at which the momenta act upon the body the liquid was not in motion, it is possible, by suitable selection of the axes Oxyz rigidly connected with the body (in which case the origin of coordinates is at the immobile point of the body) to write down this quadratic form as follows: $2T = Ap^2 + Bq^2 + Cr^2$. Here (p,q,r) denote the vector of the angular velocity of the body. The quantities A,B,C in the case of the body being filled with a liquid satisfy the inequality $C > A + B$. Next an expression is written down for the kinetic energy of the liquid

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for the case of an ellipsoidal cavity, after which the herefrom resulting expressions for A,B,C are written down. If the center of mass of the body does not coincide with the immobile point, the motion of the system defined above is described by the Euler-Poisson equations: $A\frac{dp}{dt} + (C-B)qr = Q(z_0\gamma'-y_0\gamma'')$,

$B\frac{dq}{dt} + (A-C)rp = Q(x_0\gamma''-z_0\gamma)$, $C\frac{dr}{dt} + (B-C)pq = Q(y_0\gamma-x_0\gamma')$

$\frac{d\gamma}{dt} = r\gamma'-q\gamma''$, $\frac{d\gamma'}{dt} = p\gamma''-r\gamma$, $\frac{d\gamma''}{dt} = q\gamma-p\gamma'$

Here Q denotes the weight of the given mechanical system, and (x_0,y_0,z_0) - its center of mass, $(\gamma,\gamma',\gamma'')$ - the unit vector in the direction of the gravitational force. Several solutions of these equations are known. The author further mentions a particular solution of this equation, but the formulas cannot be written down here because they are too voluminous. There are 2 Soviet references.

PRESENTED: December 15, 1958, by I. I. Artobolevskiy, Academician
SUBMITTED: July 9, 1958

Card 2/2

KHARLAMOVA-ZABELINA, Ye. I.

Fast rotation of a solid body around a stationary point with the existence of a nonholonomic bond. Vest. Mosk. un. Ser. mat. mekh., astron., fiz., khim. 12 no. 6:25-34 '57. (MIRA 11:10)
(Mechanics)

KHARLAMPIDI, G.P.

Hormonal method of stimulating birth of twins in beef cattle.
Zhivotnovodstvo 21 no.6:56-58 Je '59. (MIRA 12:8)
(Hormones, Sex) (Beef--Cattle breeding)
(Birth, Multiple)

BOYKO, Dmitriy Fedorovich; KHARLAMPIDI, Georgiy Pavlovich; SOBACHIK, A.P., spetsred.; GORNIK, M.V., red.; PECHENKIN, I.V., tekhn.red.

[Introduce the SZhK preparation more widely] Shire vnedriat' preparat SZhK. Moskva, 1960. 11 p. (MIRA 13:11)

1. Moscow. Vystavka dostizheniy narodnogo khozyaystva SSSR. Pavil'on "Ovtsevodstvo."
(Hormones) (Stock and stockbreeding)

L 33226-66 EWT(m)/EWP(j)/EWP(t)/ETI IJP(c) JD/WB/RM

ACC NR: AP6024589 SOURCE CODE: UR/0314/66/000/003/0045/0045

AUTHOR: Kharlampiyev, I. G. (Engineer); Kuzyukov, A. N. (Engineer)

ORG: none

TITLE: Intercrystalline corrosion of pipeline parts in urea production

SOURCE: Khimicheskoye i neftyanoye mashinostroyeniye, no. 3, 1966, 45-46

TOPIC TAGS: corrosion, pipeline, urea

ABSTRACT: Observation of the condition of high-pressure pipelines in urea production at the Lisichansk Chemical Combine have shown that intensified corrosion of individual parts can occur in the urea melt line, the molten urea entering the pipelines from the synthesis column at a temperature of 200° C and a pressure of 200 kg/cm^2. To conduct the examinations, a T-joint was removed from the pipeline, made of the steel Kh17N13M3T, and a coupling (D_y = 80 mm), made of the steel OKh17N16M3T, in use for about four years was also removed. No trace of corrosion was detected in the coupling, and its inner surface was smooth and glistening. The inner surface of the T-joint however looked as if it had been sprinkled with metal powder, which could be removed from the surface only with difficulty. Orig. art. has: 2 figures and 1 table. [JPRS: 35,728]

SUB CODE: 13 / SUBM DATE: none

Card 1/1 pla

UDC: 620.193.4:621.643.4

SOV/137-58-12-25212

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 12, p 167 (USSR)

AUTHOR: Kharlampiyev, I.G.

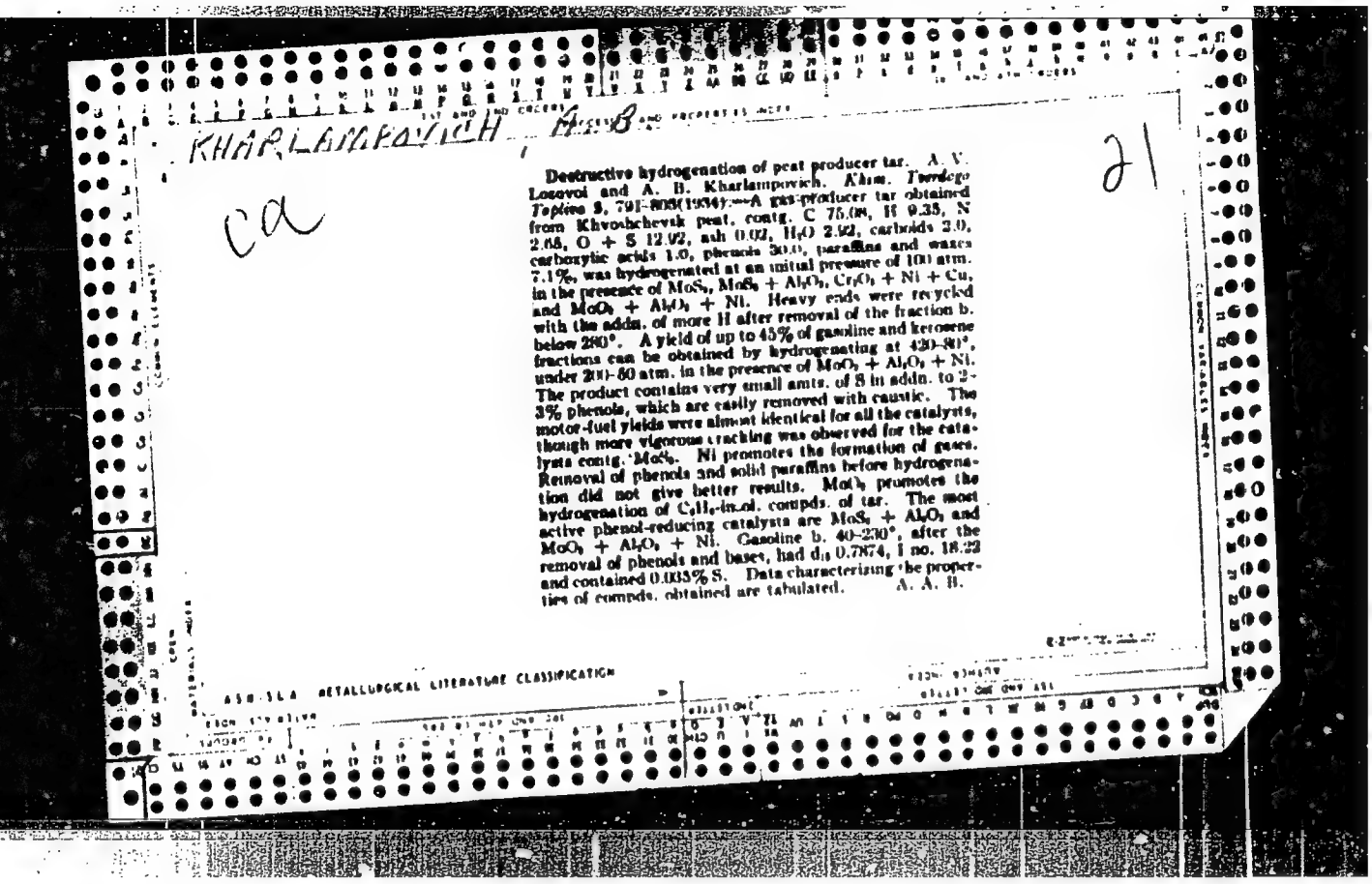
TITLE: Distribution of Manganese Among the Phases of Low-carbon Steels Which Exhibit Different Susceptibility to Cold Brittleness (Raspredeleniye margantsa mezhdu fazami malouglerodistykh staley, imeyushchikh razlichnuyu sklonnost' k khladnolomkosti)

PERIODICAL: Tr. Vost.-Sib. fil. AN SSSR, 1957, Nr 6, pp 41-46

ABSTRACT: A study was made of the relationship between Mn content in the carbide phase and the critical brittleness temperature by determining a_k [resilience] in the temperature range of +20 to -60°C and by the chemical analysis of carbide precipitates separated from specimens of industrial smelting of St 3, St 4, and St 20 steels which had been annealed, normalized, and quenched with tempering at temperatures ranging between 300 and 720°. It was established that the Mn content in the carbides increases with an increase of the tempering temperature, with subsequent decrease in the critical brittleness temperature.

T. F.

Card 1/1



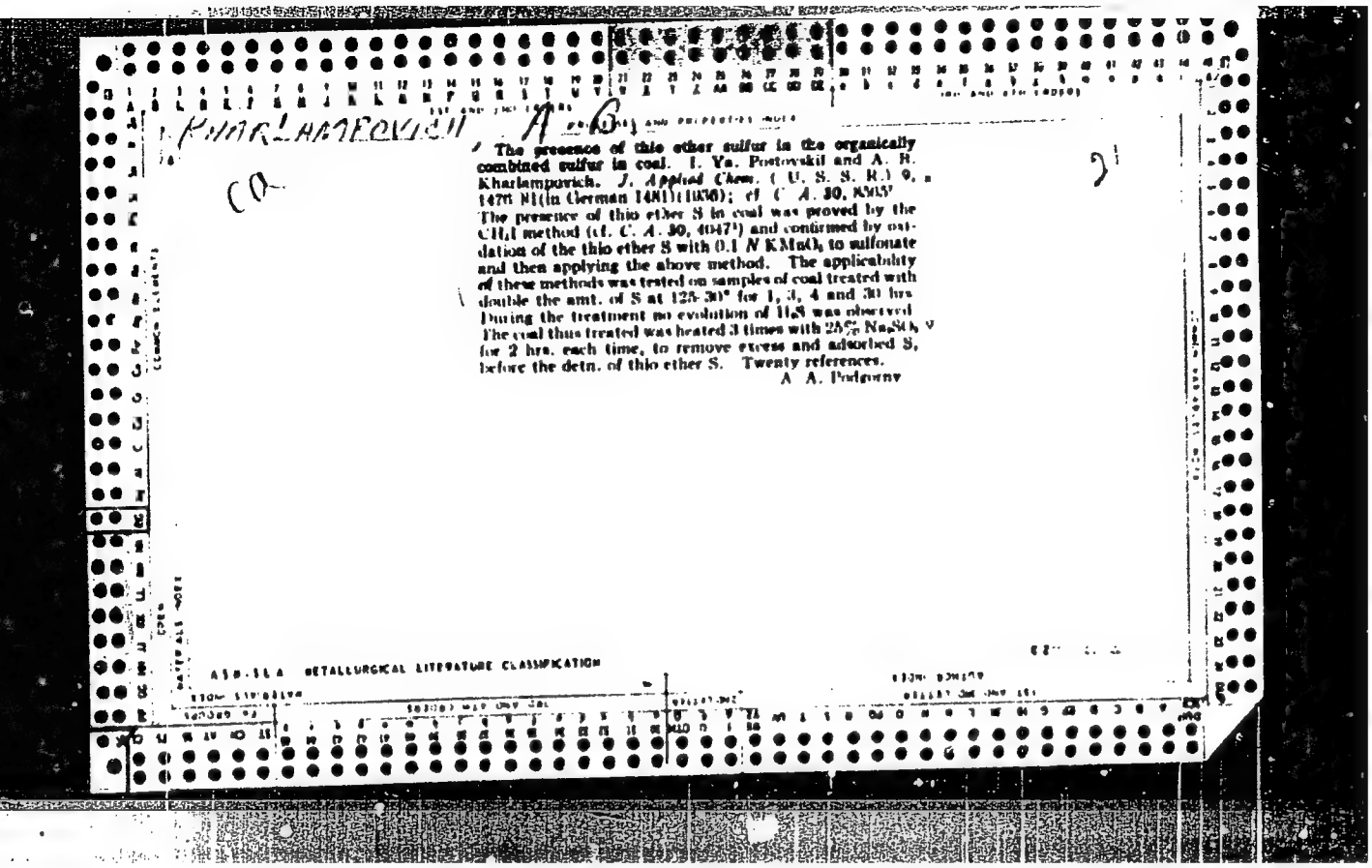
KHARLAMPOVICH, M. B.

CA

21

Destructive hydrogenation of peat producer tar. A. V. Losovoi and A. B. Kharlampovich. *Khim. Tverdogo Topliva* 5, 791-803(1934).—A gas-producer tar obtained from Khvoshchevsk peat, contg. C 75.08, H 9.35, N 2.68, O + S 12.92, ash 0.02, H_2O 2.92, carbolds 2.0, carboxylic acids 1.0, phenols 30.0, paraffins and waxes 7.1%, was hydrogenated at an initial pressure of 100 atm. in the presence of MoS_2, MoS_3 + Al_2O_3, Cr_2O_3 + Ni + Cu, and MoO_3 + Al_2O_3 + Ni. Heavy ends were recycled with the addn. of more H after removal of the fraction b. below 280°. A yield of up to 45% of gasoline and kerosene fractions can be obtained by hydrogenating at 420-80°, under 200-50 atm. in the presence of MoO_3 + Al_2O_3 + Ni. The product contains very small amts. of S in addn. to 2-3% phenols, which are easily removed with caustic. The motor-fuel yields were almost identical for all the catalysts, though more vigorous cracking was observed for the catalysts contg. Mo%. Ni promotes the formation of gases. Removal of phenols and solid paraffins before hydrogenation did not give better results. MoO_3 promotes the hydrogenation of C_6H_6-in.-ol. compds. of tar. The most active phenol-reducing catalysts are MoS_2 + Al_2O_3 and MoO_3 + Al_2O_3 + Ni. Gasoline b. 40-230°, after the removal of phenols and bases, had d_{15} 0.7874, I no. 18.22 and contained 0.035% S. Data characterizing the properties of compds. obtained are tabulated. A. A. B.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



The presence of thio ether sulfur in the organically combined sulfur in coal. I. Ya. Postovskii and A. R. Kharlamporich. *J. Applied Chem.* (U. S. S. R.) 9, 1470 81 (in German 1481) (1936); cf. *C. A.* 30, 8915. The presence of thio ether S in coal was proved by the CH_3I method (cf. *C. A.* 30, 4047[1]) and confirmed by oxidation of the thio ether S with 0.1 *N* $KMnO_4$ to sulfonate and then applying the above method. The applicability of these methods was tested on samples of coal treated with double the amt. of S at 125-30° for 1, 3, 4 and 30 hrs. During the treatment no evolution of H_2S was observed. The coal thus treated was heated 3 times with 25% Na_2SO_3 for 2 hrs. each time, to remove excess and adsorbed S, before the detn. of thio ether S. Twenty references.

A. A. Podgorny

A59-51A METALLURGICAL LITERATURE CLASSIFICATION

KHARLAMPOVICH, G.D.

Dissertation: "Multipurpose Use of Higher Phenols of Coal Tar." Cand Tech Sci, Ural Polytechnic Inst, Sverdlovsk, 1953. (Referativnyy Zhurnal, Khimiya, Moscow, No. 16, Aug 54)

SO: SUM 393, 28 Feb 1955

GOFTMAN, M.V.; KHARLAMPOVICH, G.D.

Chemical utilization of coal tar. Koks i khim.no.8:47-50 '56.
(MLRA 10:1)

1. Ural'skiy politekhicheskiy institut imeni S.M. Kirova.
(Coal tar)

KHARLAMPOVICH, G.D.

GOFTMAN, M.V.; RAUKAS, M.M.; KHARLAMPOVICH, G.D.

Means for improving the technology of naphthalene production.
Koks i khim. no.4:45-47 '57. (MLRA 10:5)

1. Ural'skiy politekhnicheskiy institut im. S.M. Kirova.
(Naphthalene)

KHARLAMPOVICH, G. D.

USSR/Chemical Technology - Chemical Products and Their Application. Industrial Organic Synthesis I-1

Abs Jour: Ref Zhur - Khimiya, No. 4, 1957

Author : Goftman, M.V., Kharlampovich, G.D.
Inst : -
Title : Study of Antioxidant Properties of Higher Phenols.

Orig Pub : Zh. prikl. khimii, 1957, 30, No 3, 439-446

Abstract : A study was made of the antioxidant action of higher phenols. Alpha-naphthol (I) and beta-naphthol (II) were used as comparison standards. Paraffin was subjected to oxidation. The objects of study were: phenol, o-cresol, phenol-cresol fraction, xylenol fraction, polyalkylphenol fraction, I, II, waste products of the recovery of I or II, methyl naphthols, dimethyl naphthols, p-phenyl phenol, methyl phenyl phenols, heavy phenols (boiling above 330°) in an amount of 0.05-0.1%. The content of peroxides was determined. The study was based upon the well-known

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* Ural'skiy politekhnicheskiy institut imeni S. M. Kirova.

concerning this question were arrived at in the present

Card 2/3

GOFTMAN, M.V.; KHARLAMPOVICH, G.D.

New technological arrangement for the processing of tar. Trudy Ural. politekh. inst. no.59:5-13 '57. (MIRA 11:4)
(Tar) (Distillation)

Kharlampovich G.D.

GOFTMAN, M.V.; KHARLAMPOVICH, G.D.

Studying higher phenols from coal tar. Trudy Ural. politekh. inst. no.59:14-36 '57. (MIRA 11:4)

(Tar acids--Analysis)

KHARLAMPOVICH, G. D.

GOFTMAN, M.V.; KHARLAMPOVICH, G.D.

Separating pure α-naphthol, β-naphthol, p-phenylphenol and durenol out of phenols from coal tar. Trudy Ural. politekh. inst. no.59:37-46 '57. (MIRA 11:4)

(Tar acids)

KHARLAMPOVICH, G.D., referent

Coke chemical plant in Durgapur (India) (from "Das Gas- und Wasserfach," 98 no.47 1957. (MIRA 11:6)

1.Ural'skiy politekhnicheskiy institut im. S.M. Kirova.
(Durgapur, India--Coke industry)

KHARLAMPOVICH, G. D.

AUTHORS: Goftman, M.V., and Kharlampovich, G.D. 68-1-15/22

TITLE: Modern Trends in the Utilization of Naphthalene (Sovremennye tendentsii v ispol'zovanii naftalina)

PERIODICAL: Koks i Khimiya, 1958, No.1, pp. 53 - 56 (USSR)

ABSTRACT: This is a survey of literature (mainly Western) on the utilization of naphthalene for the production of phthalic anhydride and other chemicals. Methods and raw materials used for the production of phthalic anhydride are briefly outlined. It is considered that under present trends of increasing demand for naphthalene, the production of phthalic anhydride from naphthalene fraction would be the most economical.
It is stated in the editorial note that the expediency of erecting phthalic anhydride plants on coke oven works requires further confirmation. There are 2 tables and 11 references, 4 of which are Slavic.

ASSOCIATION: Urals Polytechnical Institute im. S.M. Kirov. (Ural'skiy politekhnicheskiy institut im. S.M. Kirova)

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Card 1/1

KHARLAMPOVICH, G.D., referent.

New British by-product coke plant (from "Coke and Gas," 19 no.216 1957). Reviewed by G.D. Kharlampovich. Koks i khim. no.1:61-62 '58. (MIRA 11:2)

1. Ural'skiy politekhnicheskiy institut.
(Great Britain--Coke industry)

AUTHOR: Kharlampovich, G. D. 66-58-7-14/27

TITLE: On the Problem of the Choice of the Most Economical Methods of Purification of Coke Oven Gas from Hydrogen Sulphide (K voprosu o vybore naibolee ekonomichnykh metodov ochistki koksovogo gaza ot serovodoroda)

PERIODICAL: Koks i Khimiya, 1958, Nr 7, pp 48-51 (USSR)

ABSTRACT: On the basis of a comparison of the costs of cleaning 1000 m³ of coke oven gas by the vacuo potash and arsenical methods, Table 1, and ammoniacal method, Table 4, under operating conditions of the Makeyevka and Zaporozhye Coke Oven Works, data on similar costs in West Germany and the costs of sulphur and sulphuric acid in various countries, the economic and technical advantages of the above three gas cleaning systems are discussed. It is concluded that neither vacuo-carbonate nor arsenical methods of gas cleaning have deciding advantages and the choice depends on the local conditions. From the point of view of economy and simplicity of operation the ammoniacal method is superior to all other methods. As the ammoniacal method is not used in Russia the author considers their semi-industrial

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68-58-7-14/27

On the Problem of the Choice of the Most Economical Methods of Purification of Coke Oven Gas from Hydrogen Sulphide

trials of this method should be carried out in order to obtain the necessary design data, and the existing projects of construction of new gas cleaning plants reviewed in order to transfer them to the ammoniacal method.
There are 4 tables and 9 references. 5 of which are Soviet, 5 German, 1 English.

ASSOCIATION: Ural'skiy politekhnicheskiy institut (Ural Polytechnical Institute)

1. Coal gas--Purification 2. Hydrogen sulfide---Separation
3. Coal gas---Costs

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SOV/68-58-12-12/25

AUTHORS: Kharlampovich, G.D., and Ogneva, A.K.

TITLE: An Improvement in the Technology of Processing Coal Tar Phenols (Usovershenstvovaniye tekhnologii pererabotki kamennougol'nykh fenolov)

PERIODICAL: Koks i Khimiya, 1958, Nr 12, pp 41-45 (USSR)

ABSTRACT: The composition of residues left after the distillation of phenols from Eastern coking works was investigated. The residues were redistilled under vacuo (5-10mm) up to a temperature of 180°C (equivalent to 305-310°C under normal pressure). The composition of distillate was further investigated by rectification (Tables 1-3). The composition of raw phenols and those obtained from the residues was compared (Table 4). It was found that: 1) coal tar phenols, particularly higher phenols undergo considerable changes during heating, namely the yield of phenolic pitch increases while the content of lower phenols decreases and their composition changes. 2) The composition of phenols and primarily the presence of phenolic pitch, i e components boiling above 305°C, has a deciding influence on the decomposition of phenols. 3) The degree of decomposition depends more on the

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An Improvement in the Technology of Processing Coal Tar Phenols

duration of heating than on the temperature (within a range of 170-230°C, Table 5). 4) A considerable amount of valuable high boiling phenols, primarily naphthols, were found in the residues. Thus if the phenolic pitch can be separated before the distillation of phenols and the duration of their heating decreased, then the yield of the residues could be also decreased and in addition the residues would contain a higher proportion of naphthols and their homologues. For the above reasons flash evaporation of aqueous raw phenols with a short heating time was tested (Tables 6,7). It was found that by heating to 190-200° (100-150mm Hg) a complete separation of phenols can be obtained and due to a short heating time (10-40 min) the degree of transformation of phenols is low.

SOV/68-58-12-12/25

An Improvement in the Technology of Processing Coal for Phenols

On the above basis an optimum scheme for separation and rectification of phenols is proposed (Fig 2).

There are 2 figures, 6 tables and 6 references, all Soviet.

ASSOCIATION: Ural'skiy politekhnicheskiy institut (Urals Polytechnical Institute)

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SOV/68-59-5-11/25

AUTHORS: Kharlampovich, G.D., and Kagasov, V.M.

TITLE: Separate Recovery of Ammonia and Pyridine Bases from Coke Oven Gas (Razdel'noye ulavlivaniye ammiaka i piridinovykh osnovaniy iz koksovogo gaza)

PERIODICAL: Koks i khimiya, 1959, Nr 5, pp 30-32 (USSR)

ABSTRACT: In order to increase the recovery of pyridine bases, which under present practice does not exceed 70%, a separate recovery of ammonia and pyridine is suggested. To prove the validity of the suggested method the influence of ammonia sulphate additions to acid pyridine sulphate, and to pyridine sulphate on the stability of respective pyridine sulphates (Figs 1 and 2 respectively) and the influence of the content of pyridine sulphate in a mixture of acid and medium pyridine sulphates (Fig 3) were investigated. The results obtained indicated that acid pyridine sulphate is very stable in aqueous solutions, even solutions containing 200-260 g/litre of pyridine in the form of acid sulphate do not practically evolve pyridine at 70-80 °C. The stability of the medium sulphate is low. The process of separate recovery can be carried out as follows: after the passage of the

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Separate Recovery of Ammonia and Pyridine Bases from Coke Oven Gas

saturator, the purified gas containing only 0.03-0.13 g/m3 of ammonia is passed into a small scrubber (4-5 plates) with a circulating solution of acid pyridine sulphate. Part of the solution is led out in the neutraliser. In this way the amount of solution passed into the neutraliser decreases 20-25 times, the amount of steam-ammonia mixture used for the decomposition of pyridine sulphate decreases 4-5 times and the amount of solution returning to the saturator from the pyridine plant decreases 10-15 times. It is stated in the editorial note that the proposed scheme requires additional studies.

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There are 3 figures and 1 table.

ASSOCIATIONS: Ural'skiy politekhnicheskiy institut (Ural Polytechnical Institute) and Chelyabinskiy metallurgicheskiy zavod (Chelyabinsk Metallurgical Works)

SOV/66-59-9-11/22

AUTHOR : Kharlampovich, G.D., Candidate of Technical Sciences

TITLE: Perspectives and Directions in the Development of the Production of Phthalic Anhydride in the Coking Industry

PERIODICAL: Koks i khimiya, 1959, Nr 9, pp 36 - 41 (USSR)

ABSTRACT: The above problem is discussed on the basis of literature data. It is pointed out that the production of phthalic anhydride by oxidation of naphthalene fraction (instead of crystalline napthalene which is at present used in the USSR) will increase the availability of raw material and decrease the cost of the product. Simultaneously, it will be possible to produce cheaper maleic anhydride and anthraquinone. From economic considerations plants for phthalic anhydride should be built at large coking works (transport, large scale plants, cheap steam and gas for heating). No special difficulties should be encountered in the oxidation of naphthalene fraction and a concentration of the research organisations on this problem is advocated.
There are 4 figures, 4 tables and 20 references, of which 10 are Soviet, 4 English, 2 Japanese, 1 French, 1 German and 1 Polish.

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ASSOCIATION: Ural'skiy politekhnicheskiy institut (Urals Polytechnical Institute)

5(3) SOV/80-32-4-36/47

AUTHORS: Kharlampovich, G.D., Goftman, M.V., Raukas, M.M. and Rus'yanova, N.D.

TITLE: Antiseptic Properties of the Components of Coal Tar (Antisepticheskiye svoystva komponentov kamennougol'noy smoly)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 4, pp 905-909 (USSR)

ABSTRACT: The antiseptic action of individual components of the coal-tar oil have not been sufficiently studied thus far. Therefore the authors undertook an investigation of the action of various coal-tar oils and their individual components, separated from these oils, on wood-destructive fungi of the Coniophora cerebella and Merulius domesticus species. The results of the experiments are shown in tables and in graphs where figures of the loss of weight, ascribed to the destructive action of the fungi, are given. Conclusions drawn by the authors are as follows: 1. Phenols are more effective anticeptics than bases and neutral compounds, the effectiveness of the latter two is approximately the same; 2. The alkylation raises the antiseptic activity of phenols; 3. Naphthols and their homologs are better anticeptics than phenol derivatives; 4. The activity of compounds with a condensed system of benzene rings is higher than that of compounds with disconnected benzene rings; 5. Compounds

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containing the imino-group are a nutritive medium for the fungi, accelerating their growth. Moreover, it was established that a definite maximum of activity exists for all the groups of coal tar components, and the values of the temperatures of these peaks are given. It was also found out that toxicity of impregnating oils did not drop when phenols were removed from them, provided that the phenol content was less than 10%; however, with increasing content of phenols above 10% the toxicity of coal-tar oils increases. Therefore, coal-tar oils with phenol content higher than 10% are especially effective anticeptics. There are 3 graphs, 2 tables and 3 references, 1 of which is Soviet and 2 American.

ASSOCIATION: Ural'skiy politekhnicheskiy institut imeni S.M.Kirova (Ural Polytechnical Institute imeni S.M.Kirov)

SUBMITTED: October 4, 1957

KHARIAMPOVICH, G.D.; GOFTMAN, M.V.; NUS'YANOVA, N.D.

New method of recovering ammonia from coke-oven gas. Koks i khim. no.4:34-39 '60. (MIRA 13:6)

1. Ural'skiy politekhnicheskiy institut.
(Ammonia) (Coke-oven gas)

KAGASOV, V.M.; KHOLOPTSEV, V.P.; NEMIROVSKIY, N.Kh.; LOPAREV, V.G.; KHARLAMPOVICH, G.D., kand.tekhn.nauk

Separate recovery of ammonia and pyridine bases from coke-oven gas. Koks i khim. no.6:32-35 '60. (MIRA 13:7)

1. Chelyabinskiy metallurgicheskiy zavod (for all except Kharlampovich). 2. Ural'skiy politekhnicheskiy institut (for Kharlampovich).

(Coke-oven gas) (Ammonia) (Phyridine bases)

KHARLAMPOVICH, G.D.; IZVEKOV, V.N., inzh., retsenzent; MIKHAYLOVA, M.A., inzh., nauchnyy red.; KUTENKOVA, G.M., tekhn.red.

[Coal chemicals as raw materials for the production of polymers] Khimicheskie produkty koksovaniia - syr'e dlia proizvodstva polimerov. Sverdlovsk, TSentral'noe biuro tekhn.informatsii, 1959. 24 p. (MIRA 14:4)

1. Russia (1917- R.S.F.S.R.) Sverdlovskiy ekonomicheskiy administrativnyy rayon. Sovet narodnogo khozyaystva.
(Coke industry--By-products) (Polymers)

KHARLAMPOVICH, G.D.; AKSENOVA, T.F.

Production of plasticizers substituting for cresyl phosphate, based on xylenols and high boiling phenols from coal tar. Koks i khim. no. 5:46-49 '61. (MIRA 14:4)

1. Ural'skiy politekhnicheskiy institut.
(Plasticizers) (Coal tar) (Tolyl phosphate)

GOFTMAN, M.V., prof.; KHARLAMPOVICH, G.D.; RUS'YANOVA, N.D.

Ways of utilizing coke-gas ammonia. Zhur. VKHO 5 no.1:38-42 '60. (MIRA 14:4)

(Ammonia) (Coke-oven gas)

S/068/62/000/001/002/002
E071/E435

AUTHORS: Rus'yanova, N.D., Kharlampovich, G.D., Belyayeva, G.F., Goftman, M.V.

TITLE: Oxidation of anthracene-phenanthrene fraction with the production of anthraquinone, phthalic and maleic anhydrides

PERIODICAL: Koks i khimiya, no.1, 1962, 47-52

TEXT: The process of oxidation of the above fraction in the air-vapour phase over a vanadium-potassium-sulphate-silica gel catalyst (K-26) used in the industrial oxidation of naphthalene was investigated on a laboratory scale. The starting fraction was obtained by rectification of raw anthracene fraction with a column equivalent to 25 theoretical plates. The yield of the fraction was about 50% on raw anthracene. About 80% of anthracene and 75 to 80% of phenanthrene were concentrated in this fraction; mean composition: anthracene - 40 to 45%, phenanthrene - 35 to 40% and carbazole - 10 to 15%. The oxidation of pure anthracene and phenanthrene takes place under the following identical conditions: temperature 370°C, contact time 2.3 to 2.4 seconds, load on the catalyst 25 to 30 g/litre hr.

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Oxidation of anthracene- ...

Whereupon from anthracene, anthraquinone is obtained with a yield of 60% and from phenanthrene 54% of phthalic and 13.3% of maleic anhydrides. On shortening the contact time, the oxidation is incomplete and among the products of oxidation of phenanthrene lactone of 2-oxydiphenyl-2' carbonic acid is formed. The oxidation of anthracene-phenanthrene fraction at 370°C and contact time of 2.3 to 2.4 seconds leads to its complete combustion. Only on shortening the contact time to 2 sec was a yield obtained which was equal to that obtained from pure products at a contact time of 2.4 sec. However, there are substantial differences in the conditions of oxidation of phenanthrene:
1) the reaction products contained lactone, which on oxidation of pure phenanthrene appears only at a contact time of 1 sec;
2) there was a decrease in the combustion of phenanthrene and the total yield of its oxidation products increased to 90% (72% acid products and 18% lactone). On shortening the contact time to 1.36 sec, a similar phenomenon was observed for anthracene; due to a decrease in the degree of complete combustion the yield of anthraquinone increases to 81%. On further shortening of the contact time to 1.06 sec, the yield of

Oxidation of anthracene- ...

anthraquinone increased to 84% but simultaneously the yield of anhydrides decreased. An increase in the load on the catalyst from 50 to 66 g/litre hr has a positive influence on the process. Optimum conditions at 370°C were: 1.36 sec contact time and 66 g/litre hr load on the catalyst. The composition of the mixture (proportion of anthracene to phenanthrene and the content of carbazole) also has a considerable influence on the process (Table 3). In the experiments the oxidation products - anthraquinone, lactone and a part of the phthalic anhydride (about 20%) - were caught in the air condenser, the remaining products in water. The separation of the reaction products presented no difficulties. Anthraquinone was purified by washing with hot water to remove phthalic anhydride, with a 20% alkali to remove lactone and then sublimated. The pure product had a melting temperature of 286 to 287°C. The aqueous solution of phthalic and maleic acids was evaporated in vacuo and anhydrides redistilled. These can be used as a mixture or separated on the basis of the difference in their solubility in water. It is considered that under industrial conditions, the condensation of the oxidation products should be done in two

Oxidation of anthracene- ...

stages; single-stage scrubbing would be difficult due to a high density of the product pulp (a high concentration of anthraquinone). The first stage scrubbing should be done in a Venturi scrubber with a water spray as the cooling medium. It is concluded that the oxidation of anthracene-phenanthrene fraction containing approximately equal proportions of anthracene and phenanthrene and a minimum amount of carbazole would be advantageous on an industrial scale. There are 5 figures, 5 tables and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc. The reference to an English language publication reads as follows: Ref.1: Kinneu, C.R., Pinkus, I. Ind. Eng. Chem. 1951, 43, no.12, 2880.

ASSOCIATION: Ural'skiy politekhnicheskiy institut
(Ural Polytechnical Institute)

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S/068/62/000/001/002/002
E071/E435

Oxidation of anthracene- ...

Table 3.

1. raw material
2. contact time, sec
3. load on catalyst, g/litre hr
4. Yield at the theoretical
5. anthraquinone
6. lactone
7. phthalic anhydride
8. maleic anhydride
9. 55% anthracene, 35% phenanthrene and 10% carbazole
10. 45% anthracene, 40% phenanthrene and 15% carbazole.

Card 5/6

GOFTMAN, M.V.; KHARLAMPOVICH, G.D.; RAUKAS, M.M.; RUS'YANOVA, N.D.

Antiseptic properties of the products of coal tar. Trudy Ural. politekh. inst. no.94:90-102 '60. (MIRA 15:6)
(Coal tar) (Antiseptics)

KHARLAMPOVICH, G.D.; RUS'YANOVA, N.D.; MEL'NIKOVA, V.I.; GORDEYEVA, Z.K.;
Prinimali uchastiye: MIRONOV, V.I., laborant; MAKAROVA, Z.A.,
laborant; KUDRYASHOVA, R.I., student; TATARUOV, G.P., student;
SELITSKIY, G.A., student; IL'CHENKO, P.P., student; MOSKOVSKIKH, V.V.,
student; YEVSEYEV, Ye.I., student

Studying the new method of ammonia receovery in an experimental
industrial installation. Koks i khim. no.2:34-38 '62.
(MIRA 15:3)

1. Ural'skiy politekhnicheskiy institut.
(Coke-Oven gas) (Ammonia)

RUS'YANOVA, N.D.; KHARLAMPOVICH, G.D.; BELYAYEVA, G.F.

Oxidation of the anthracene-phenanthrene fraction for the production of anthraquinone, phthalic and maleic anhydrides. Kin.i kat. 3 no.2:289-291 Mr-Ap '62. (MIRA 15:11)

1. Ural'skiy politekhnicheskiy institut.
(Anthracene) (Anthraquinone)
(Phthalic anhydride) (Maleic anhydride)

LEVIN, I.S.; KHARLAMPOVICH, G.D.

New types of binding material for the briquetting of fuel.
Ugol' 37 no.9:48-52 S '62. (MIRA 15:9)

1. Ural'skiy politekhnicheskiy institut im. S.M. Kirova.
(Briquets (Fuel))
(Coal tar)

BUNAKOV, N.G.; KHARLAMPOVICH, G.D.

Ammonia vapor pressure over aqueous solutions of ammonium orthophosphate. Zhur.prikl.khim. 37 no.1:36-41 Ja '64. (MIRA 17:2)

1. Ural'skiy politekhnicheskiy institut imeni Kirova.

KHARLAMPOVICH, G.D., kand. tekhn. nauk; KAGASOV, V.M.

Discussing D.S. Petrenko, O.D. Goritskaia and M.D. Shapiro's article "Efficient utilization of ammonia from the tar liquor in the production of pyridine bases." Koks i khim. no.10:62 '63. (MIRA 16:11)

1. Ural'skiy politekhnicheskiy institut (for Kharlampovich).
2. Karagandinskiy metallurgicheskiy zavod (for Kagasov).

KUDRYASHOVA, R.I.; KHARLAMPOVICH, G.D.; DEGTYAREVA, V.F.

Conductometric method of analysis of solutions of ammonium phosphates and sulfates. Zav.lab. 29 no.12:1429-1430 '63. (MIRA 17:1)

1. Ural'skiy politekhnicheskiy institut i Ural'skiy filial Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta.

KHARLAMPOVICH, G.D.; KUDRYASHOVA, R.I.

Recovery and separation of pyridine bases in the production of diammonium phosphate. Koks i khim. no.2:31-35 '64. (MIRA 17:4)

1. Ural'skiy politekhnicheskiy institut.

BUNAKOV, N.G., KHERIAMPOVICH, G.D.

...ubility of acid gases (carbon dioxide, hydrogen sulfide) ...n aqueous solutions of ammonium orthophosphates. Zhur.prikl. Khim. 38 no.9:1915-1921 S '65. (MIRA 18:11)

1. Uralskiy politekhnicheskiy institut imeni Kirova.

ACC NR: AT7004079 SOURCE CODE: UR/3244/66/000/004/0069/0071

AUTHOR: Kharlampovich, G.D.; Gol'tsova, L.F.

ORG: Urals Polytechnic Institute (Ural'skiy politekhnicheskiy institut)

TITLE: Preparation of stabilizers for plastics, synthetic resins, and petroleum products using methylnaphthalenes derived from coal tar

SOURCE: Dnepropetrovsk. Khimiko-tekhnologicheskiy institut. Khimicheskaya tekhnologiya, no. 4, 1966, 69-71

TOPIC TAGS: naphthalene, rubber stabilizer, chemical stabilizer, stabilizer additive, antioxidant additive

ABSTRACT: 1-Methyl-2-naphthol, 1-methyl-4-naphthol, and 1-methyl-8-naphthol were prepared and their antioxidative properties were studied to determine the possibility of the use of these coal tar derivatives as readily available stabilizers of aviation fuels, lubricants, resins, polymers, and food products. The antioxidative activity of the methylnaphthols along with naphthols and flexzone were studied by measuring the induction period in air oxidation of paraffin at 170 ± 0.1C with an air consumption rate of 6 ml/g·min. The induction period was determined by iodometric titration of the peroxides formed. The results for a 0.1% concentration of the additives are given in the table. The induction period decreased

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ACC NR: AT7004079

Table 1. Induction period of the oxidation of paraffin with additions of methylnaphthols

Additive	Induction period, min
Without an additive. .	22
β-Naphthol	214
α-Naphthol	520
Flexzone	802
1-Methyl-2-naphthol. .	420
1-Methyl-4-naphthol. .	796
1-Methyl-8-naphthol. .	942

considerably by decreasing the additive concentration to 0.05%. The effectiveness of the inhibitor decreased with increasing temperature. Thus, the methyl substituted naphthols are more effective as oxidation inhibitors than naphthols, and are more active than some patented antioxidants of the substituted amine type, produced abroad. [PS]

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 006/
ATD PRESS: 5114

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